# Health Benefits to Humans, Wildlife and Agriculture

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Unwanted light is now known to disturb natural circadian rhythms. Humans are not the only ones who are adversely; both wildlife and domestic animals are similarly impacted.



Prolonged exposure to artificial lighting creates disorientation, alters behaviors, and changes breeding cycles. The new regulations value this for not only our residents, but for the animals and plant life that contribute to the uniqueness of Provincetown.



#### **Color Temperature**

Along with advances in energy efficiency, lighting technology now allows easily accomplished variations in color temperature. These revisions incorporate a requirement that all lamps deliver 'warm' lighting, measured at 3,000K (Kelvin) or less, recognized as closer to daylight or natural light. Exemptions to this requirement are included for Town Center and General Commercial zones.

## WHY REPLACE THE CURRENT STANDARDS?

This replacement of our Illumination Standards for exterior lighting is designed to enhance our enjoyment of our night sky, reduce the nuisance of light trespass, and, at the same time, allow the vibrant nightlife of our commercial areas to continue to utilize decorative illumination.

In addition, our current regulations do not reflect recent advances in lighting technology, nor do they incorporate the increasing body of knowledge on light pollution and its impact.

This new Section 3430 was researched and co-developed by the Town Planner and the Planning Board, with assistance from lighting technology experts and a review of similar bylaws in other communities.



#### **Commercial Activities and Safety**

These new standards have specific exemptions for festive, decorative lighting, to allow our businesses to thrive. Also protected is safety related lighting and lighting for temporary events, providing adequate light for the safe performance of outdoor tasks at night.



Preservation of the "Dark Sky"

Provincetown is unique; our geographic, coastal location affords us the opportunity to observe the vastness of the night sky. By incorporating dark sky-complaint "fully shielded" fixtures with limitations on their brightness (measured in "Lumens), we will minimize "skyglow" to preserve our ability to view the stars against a dark sky.

### Reduction of Nuisance Lighting

In our residential neighborhoods, unwanted light and glare can "trespass" onto adjacent properties, negatively affecting the enjoyment of our homes. Fully shielded fixtures work to prevent this problem.



#### **Energy Conservation**



Our current regulations measure light output in wattage, an inappropriate measuring, due to the advancement in LED and other

technologies that are vastly more energy efficient. The focus is on output measured in Lumens, requiring efficient and cost-effective lighting to conserve energy, thereby reducing carbon emissions and costs to the citizens.